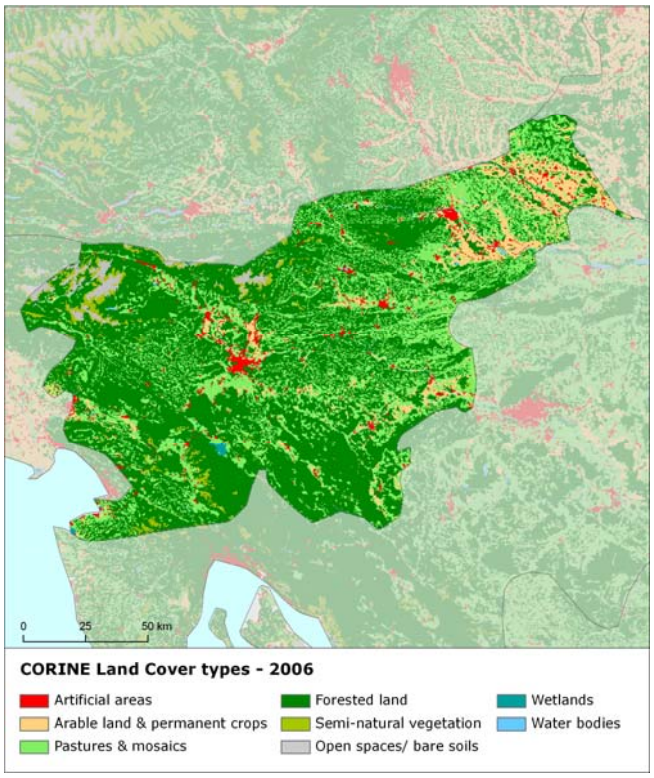
Slovenia

Land cover 2006

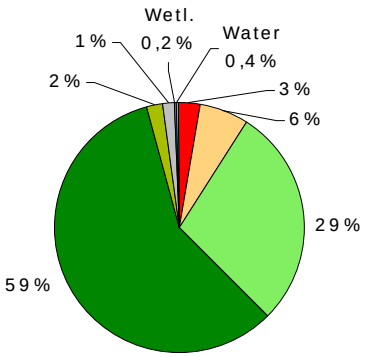
Overview of land cover & change 2000-2006

The already stable Slovenian landscape has been even more stabilized during the 2000-2006 period, which is documented by significantly lower rate of annual land cover change, compared to the previous period. With the exception of artificial areas and water bodies, all other land cover types have very low percentual net change rate. The most important land cover change in Slovenian landscape is artificial uptake of forested and agricultural land.
This situation in Slovenian land cover development is very well illustrated on the map “Drivers of change”. According to this map it is obvious that the only significant land cover flow in the country is sprawl of economic sites and infrastructures.
This is caused by both decrease of intensity of major drivers from the previous period (i.e. forest creation and management followed by urban land management and conversion from forested land to agriculture) and acceleration of the sprawl of economic sites and infrastructures, which is represented mainly by construction. Also the development of forested and agricultural land is influenced mostly by consumption of land by artificial sprawl.

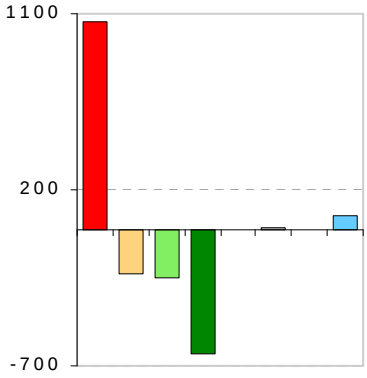


Note: The results presented here are based on a change analysis of 44 land cover types mapped consistently on a 1:100.000 scale across Europe over almost two decades 1990-2006 - see Corine land cover (CLC) programme for details.
Number of years between CLC2000-CLC2006 data for Montenegro: 6

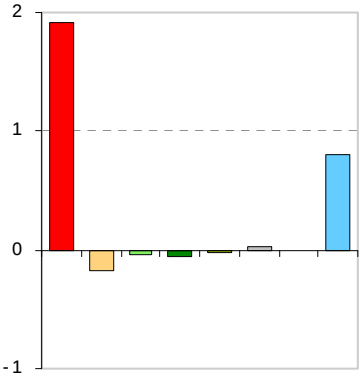
1.1. Land cover 2006 [% of total]



1.2. Net change in land cover 2000-2006 [ha]



1.3. Net change in land cover [% of initial year 2000]



Artificial areas
Arable land & permanent crops
Pastures & mosaics
Forested land
Semi-natural vegetation
Open spaces/ bare soils
Wetlands
Water bodies

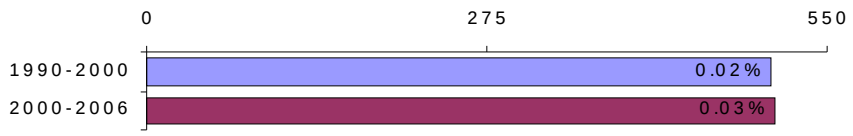
Summary balance table 2000-2006

	Artificial areas	Arable land & permanent crops	Pastures & mosaics	Forested land	Semi-natural vegetation	Open spaces / bare soils	Wetlands	Water bodies	TOTAL [hundreds ha]
Land cover 2000	**552**	**1313**	**5747**	**11837**	**431**	**288**	**32**	**79**	**20279**
Consumption of initial LC	0	2	3	25	0	0	0	0	30
Formation of new LC	11	0	0	19	0	0	0	1	30
Net Formation of LC	**11**	**-2**	**-3**	**-6**	**0**	**0**	**0**	**1**	**0**
Net formation as % of initial year	*1.9*	*-0.2*	*0.0*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.8*	
Total turnover of LC	**11**	**2**	**3**	**44**	**0**	**0**	**0**	**1**	**61**
Total turnover as % of initial year	*2.0*	*0.2*	*0.0*	*0.4*	*0.0*	*0.0*	*0.0*	*0.8*	*0.3*
Land cover 2006	**562**	**1311**	**5745**	**11830**	**431**	**288**	**32**	**80**	**20279**

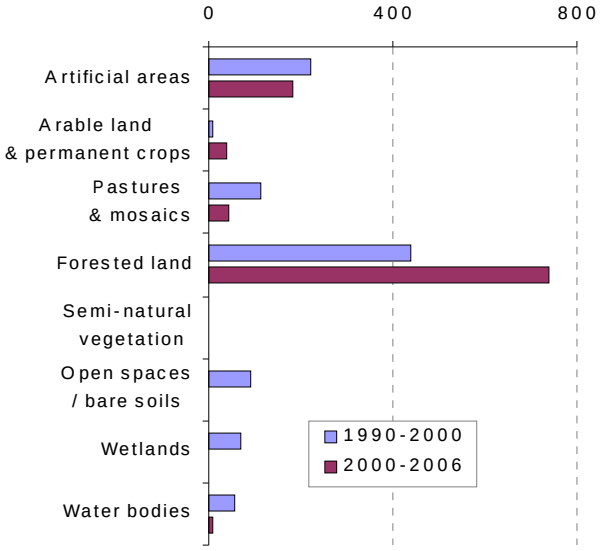
Slovenia

Land cover trends comparison 1990-2000 vs. 2000-2006

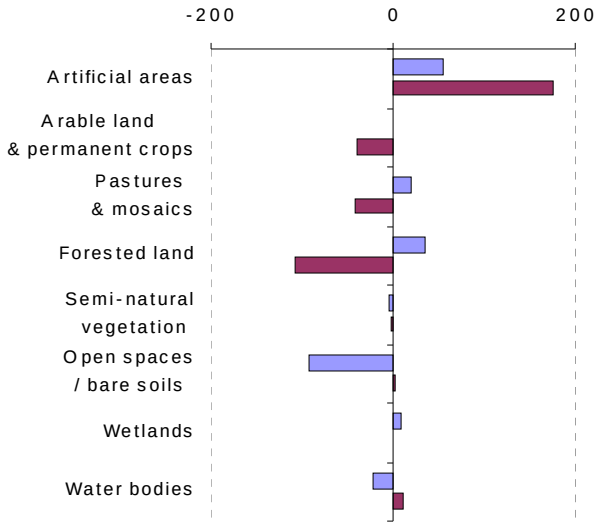
2.4. Annual land cover change [ha/year, % of total area]



2.5. Annual turnover of LC types [ha/year]

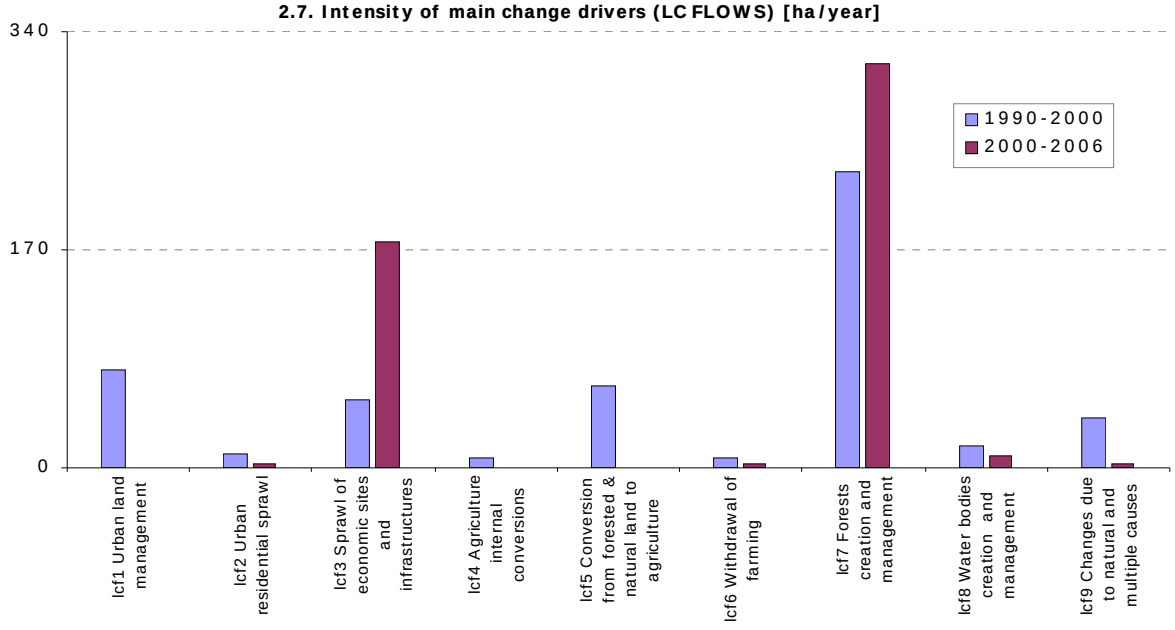


2.6. Net annual change of LC types [ha/year]



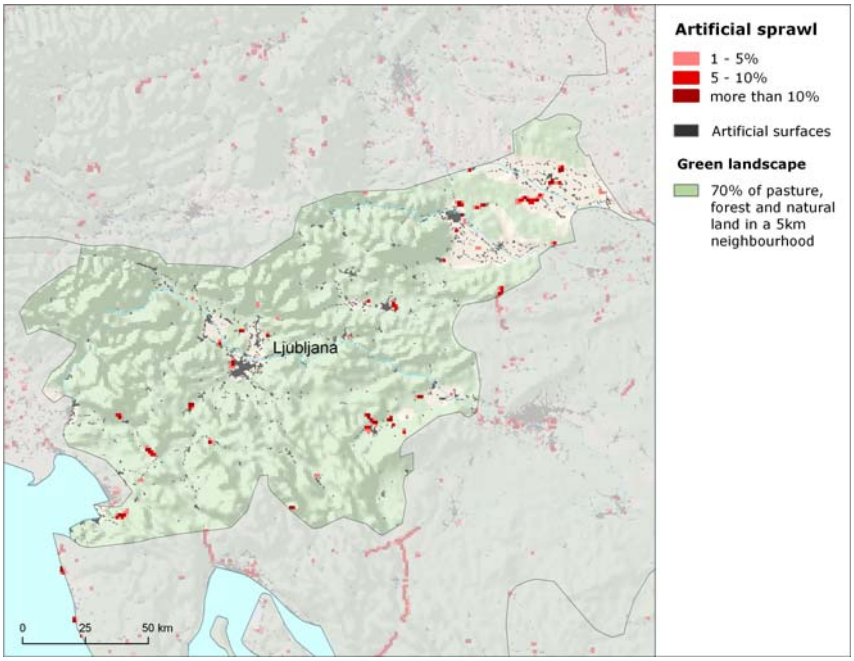
Summary trend figures	1990-2000	2000-2006
Annual land cover change [ha/year]	**504**	**508**
Annual land cover change as % of initial year	**0.02%**	**0.03%**
Land uptake by artificial development as mean annual change [ha/year]	63	179
Agricultural land uptake by urban and infrastructures development as mean annual change [ha/year]	33	77
Net uptake of forests and semi-natural land by agriculture as mean annual change [ha/year]	54	-3
Net conversion from pasture to arable land and permanent crops as mean annual change [ha/year]	0	0
Forest & other woodland net formation as mean annual change [ha/year]	36	-107
Dry semi-natural land cover net formation as mean annual change [ha/year]	-98	0
Wetlands & water bodies net formation as mean annual change [ha/year]	-13	11

2.7. Intensity of main change drivers (LC FLOWS) [ha/year]

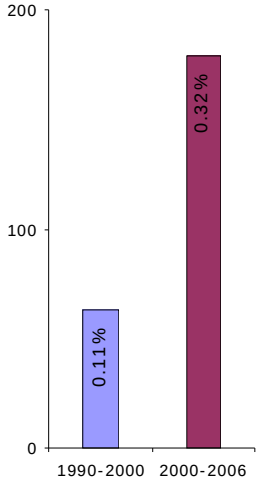


Slovenia

Artificial areas



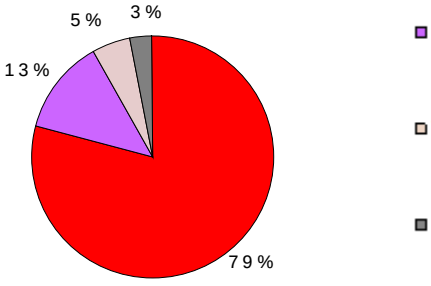
3.8. Artificial land take [ha/year, % of initial year]



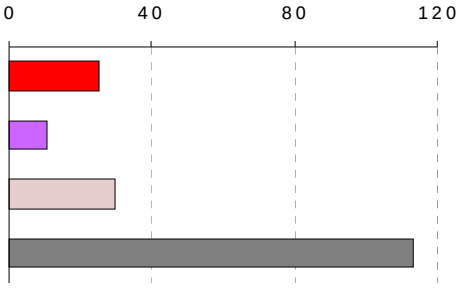
Accelerated land take by construction

The overall annual land take rate is low, but accelerates being tripled compared to the previous 1990-2000 period. Recycling of developed urban land (represented by conversion of construction sites into transportation networks), which was the major driver of artificial land cover development during 1990-2000, disappeared in the 2000-2006 period. On the other side, development of new construction sites became the main driver of accelerated artificial sprawl. More than half of total taken area has been taken by extension of construction (51%), which indicates the potential of further development of artificial areas. To a lesser extent, artificial land take has been also driven by sprawl of transport networks (17%), sport and leisure facilities (12%) and mines and quarrying areas (11%). Compared with these changes, the intensity of industrial/commercial (6%) and residential sprawl (1%) is rather low. Mostly forested land (61%)has been taken by artificial sprawl, followed by agricultural areas (39%) with almost equal share of arable/crop land (20%) and pastures/mosaics (19%). Spatially, artificial land take is distributed in valleys in the proximity of the main cities including the capital city Ljubljana.

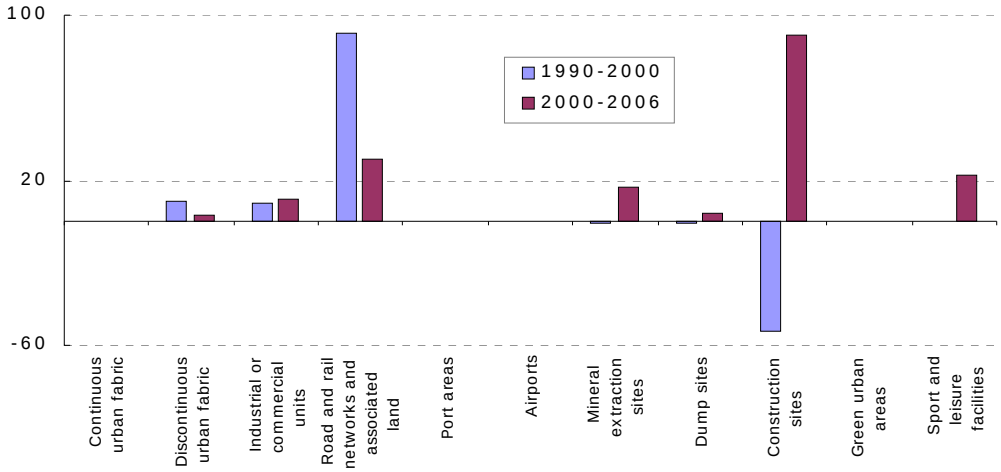
3.9. Artificial surfaces 2006 [% of total area]



3.10. Artificial land take 2000-2006 [ha/year]

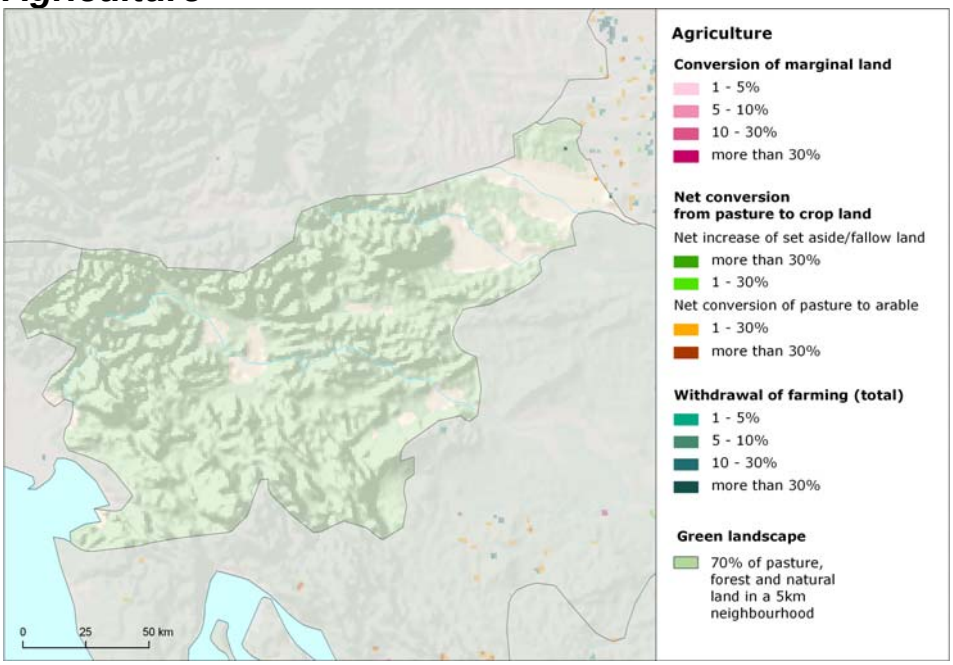


3.11. Mean annual artificial change by class [ha/year]



Slovenia

Agriculture



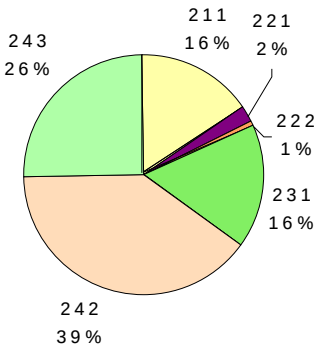
Limited changes, consumption of agricultural land

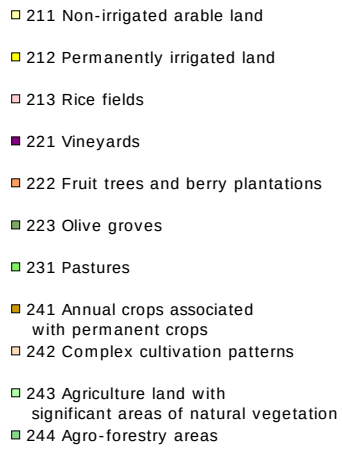
Agricultural land in Slovenia has prevailing share of complex cultivation patterns, followed by agricultural land with natural vegetation, pastures and arable land. The overall change dynamics of agricultural surfaces is very low.

The structure of agricultural development changed rapidly, compared to the previous period. During 1990-2000, agricultural surfaces had positive net change balance, with significant increase of pasture area, and also the consumption of agricultural areas was negligible. In contrast, during 2000-2006 period, both arable/crop land and pastures/mosaics have negative balance of net change. Moreover, there has been no formation of agricultural area and also no internal agriculture conversions during the whole period in Slovenia.

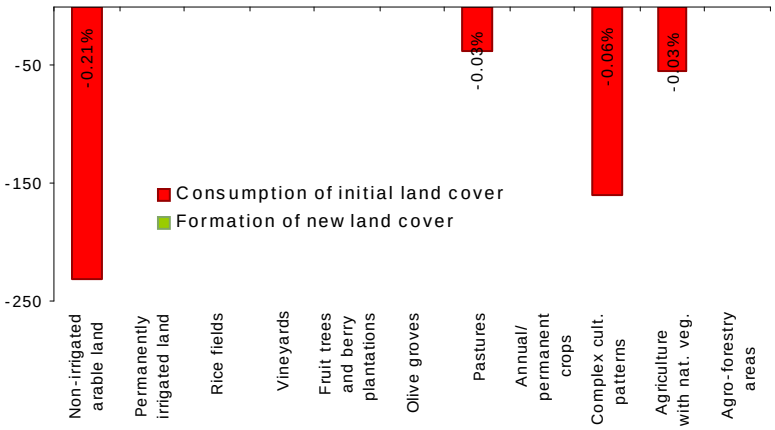
Agricultural land has been consumed mostly by sprawl of economic sites and infrastructures (with prevailing share of construction sites) and also by water bodies creation and withdrawal of farming with woodland creation.

4.12. Agricultural areas 2006 [% of total area]

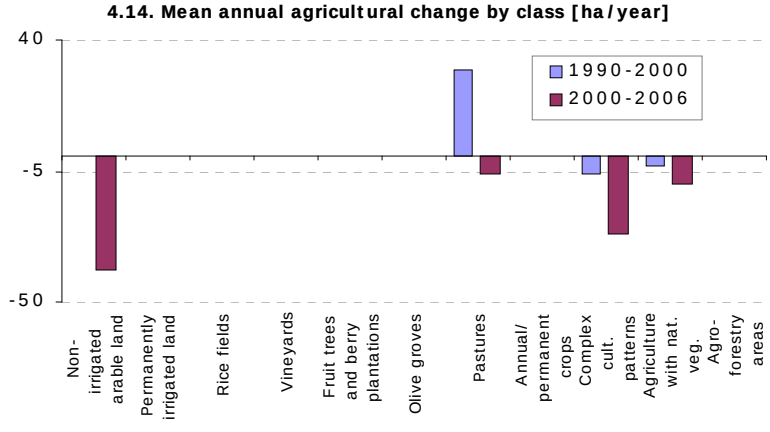




4.13. Development of agricultural areas 2000-2006 – detailed balance [ha]

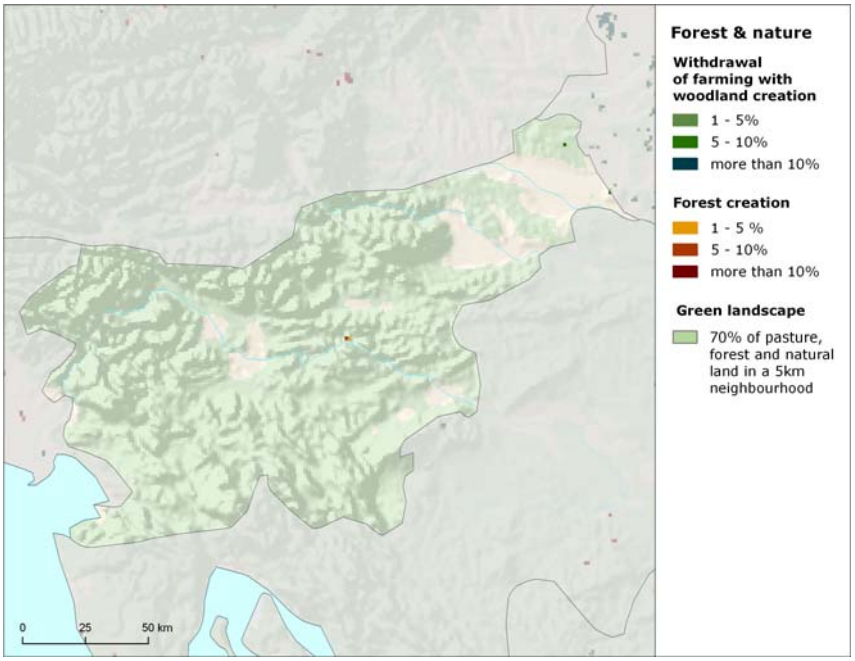


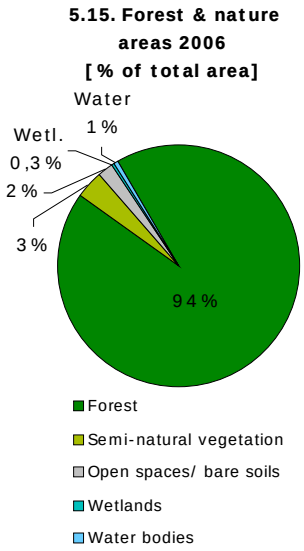
4.14. Mean annual agricultural change by class [ha/year]



Slovenia

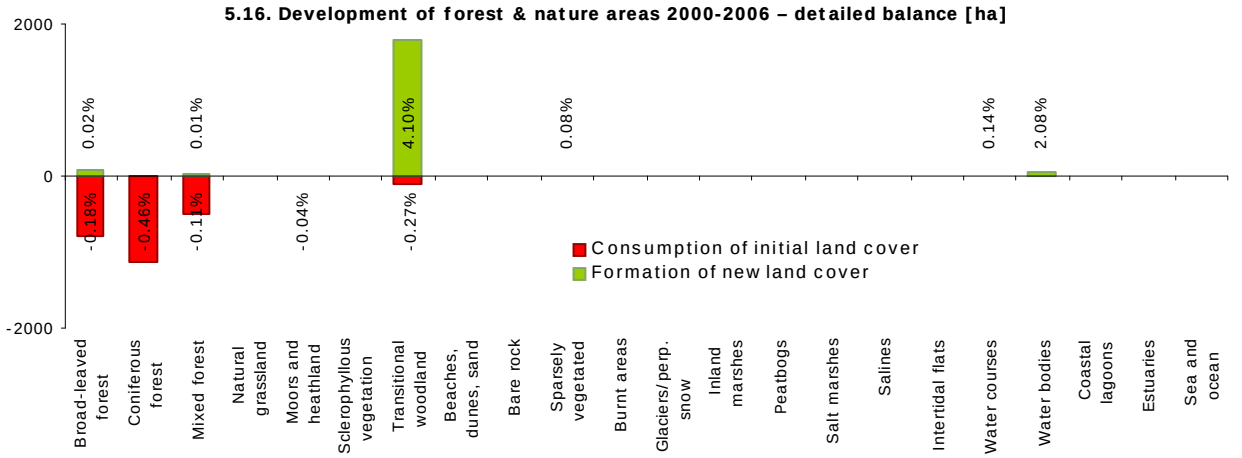
Forest & nature

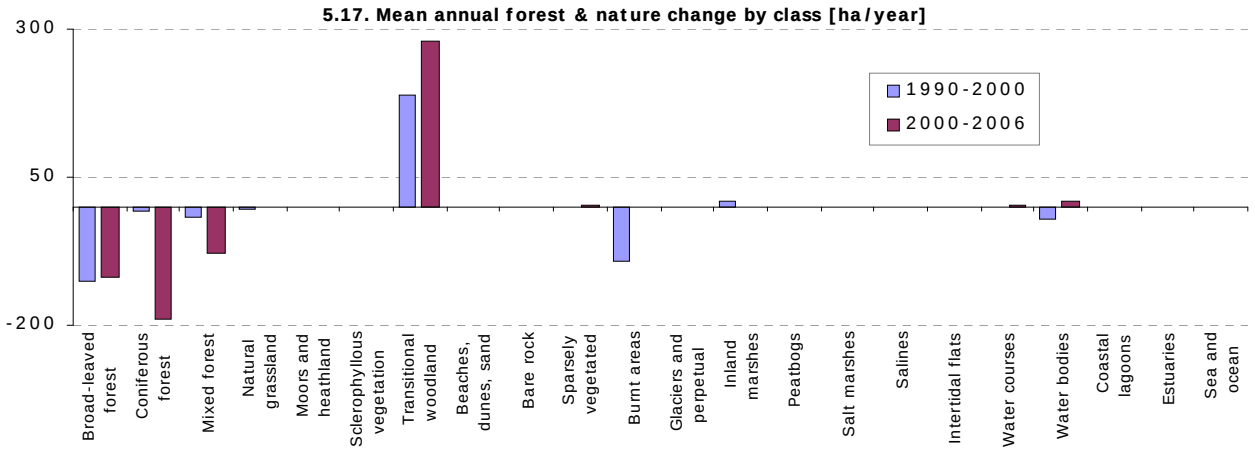




Limited changes, land take by artificial sprawl

Also the intensity of change of natural surfaces in Slovenia is very low. Recent felling and transition is the most powerful driver of forested land exchange. Besides, the only significant flow of natural land cover development is land uptake by sprawl of economic sites and infrastructures (with prevailing share of construction), which consumes forested areas. In contrast, there has been certain amount of new water bodies formatted over pastures and mosaics.



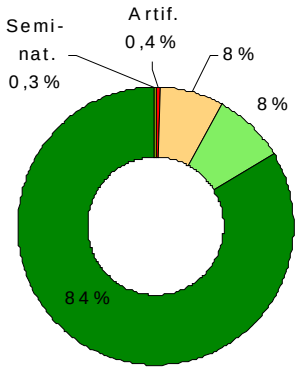


Slovenia

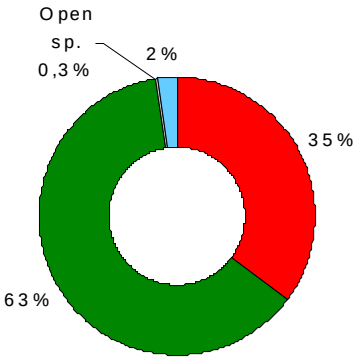
Annex: Land cover flows and trends

Land cover flows 2000-2006

6.18. Consumption of land cover 2000-2006 [% of total change area]

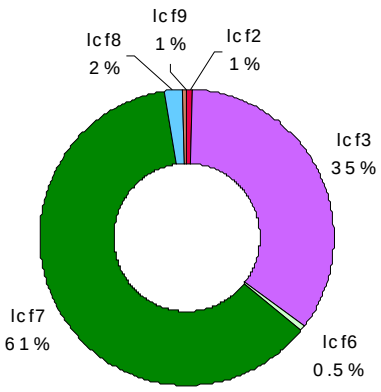


6.19. Formation of land cover 2000-2006 [% of total change area]



Artificial areas
Arable land & permanent crops
Pastures & mosaics
Forested land
Semi-natural vegetation
Open spaces/ bare soils
Wetlands
Water bodies

6.20. Drivers of change (LC FLOWS) 2000-2006 [% of total change area]

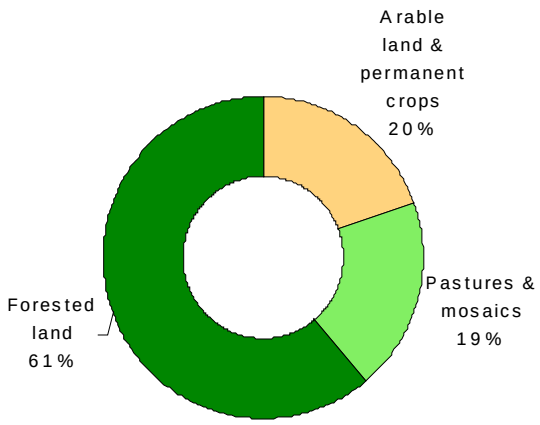


lcf1 Urban land management
lcf2 Urban residential sprawl
lcf3 Sprawl of economic sites and infrastructures
lcf4 Agriculture internal conversions
lcf5 Conversion from forested & natural land to agriculture
lcf6 Withdrawal of farming
lcf7 Forests creation and management
lcf8 Water bodies creation and management
lcf9 Changes due to natural and multiple causes

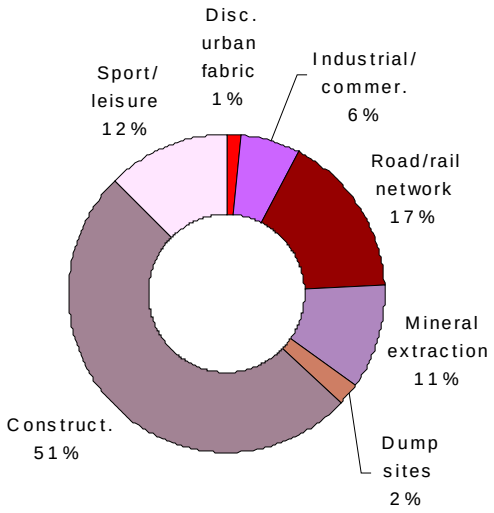
Slovenia

Artificial areas

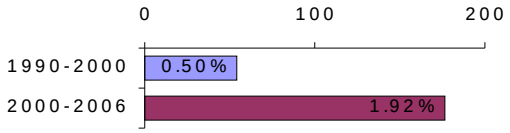
7.21. Consumption by artificial land take 2000-2006 [% of total]



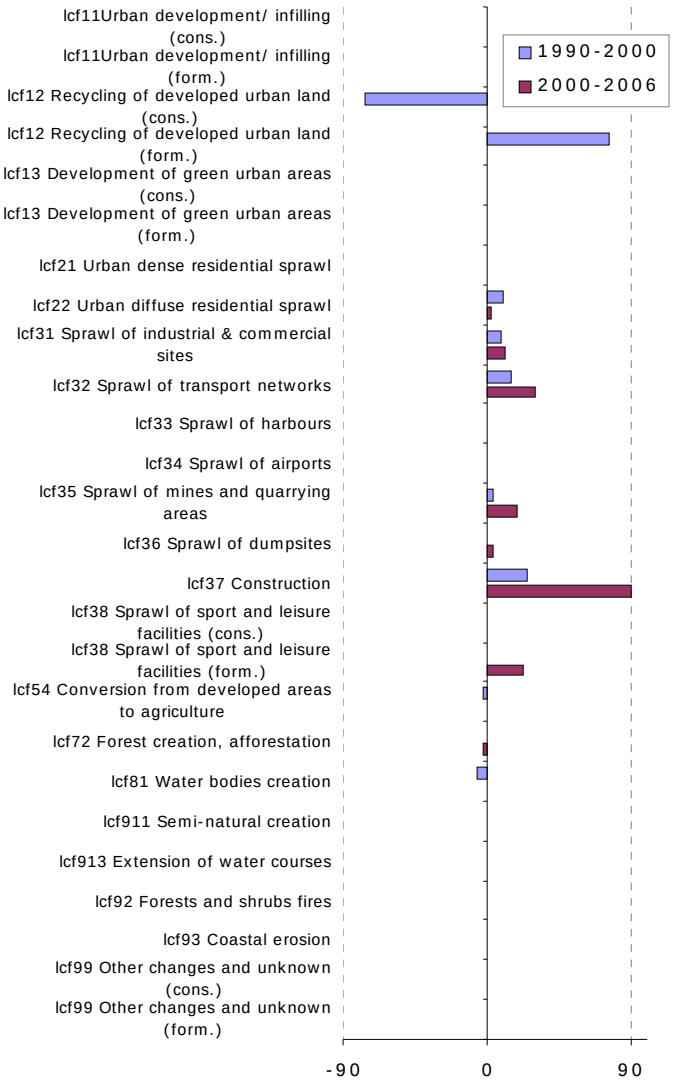
7.22. Formation by artificial land take 2000-2006 [% of total]



7.23. Net formation of artificial area [ha/year, % of initial year]



7.24. Artificial development by change drivers (LC FLOWS) [ha/year]



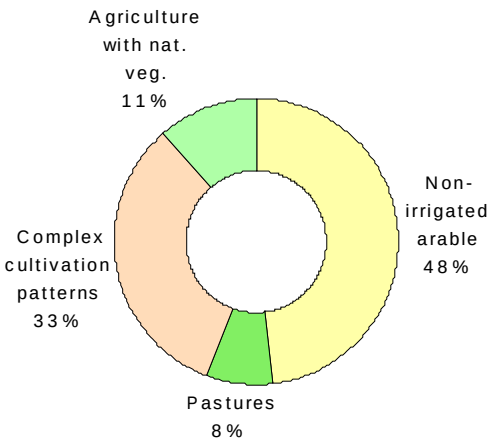
Slovenia

Agriculture

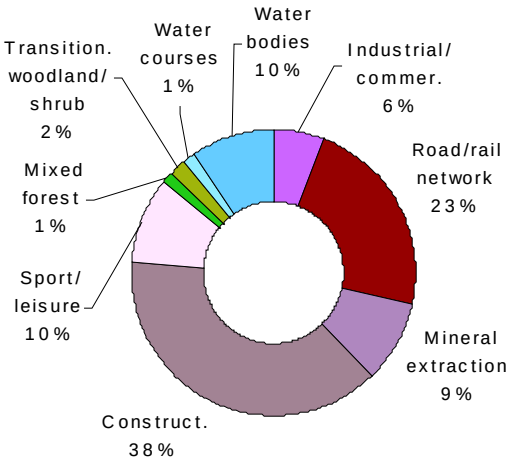
8.25. LC consumed by agriculture 2000-2006 [% of total]

8.26. Formation of agricultural land from non-agriculture 2000-2006 [% of total]

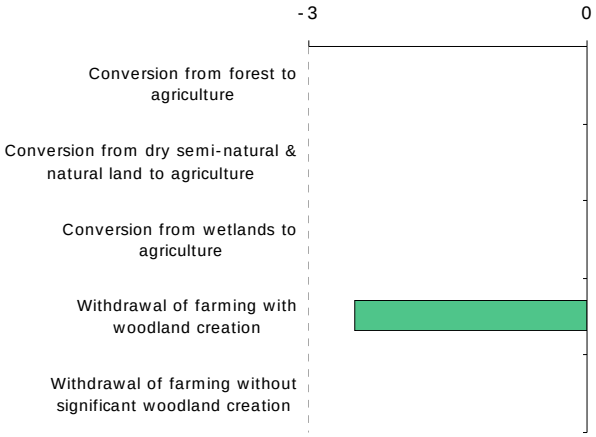
8.27. Consumption of agricultural land by non-agriculture 2000-2006 [% of total]



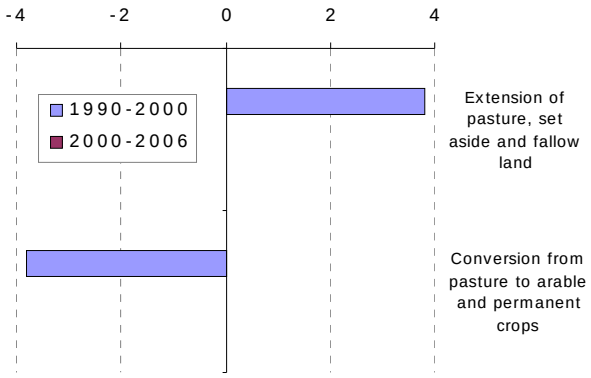
8.28. Formation of non-agricultural land from agriculture 2000-2006 [% of total]



8.29. Main annual conversions between agriculture and forests & semi-natural land 2000-2006 [ha/year]



8.30. Mean annual conversion between arable land and pasture [ha/year]



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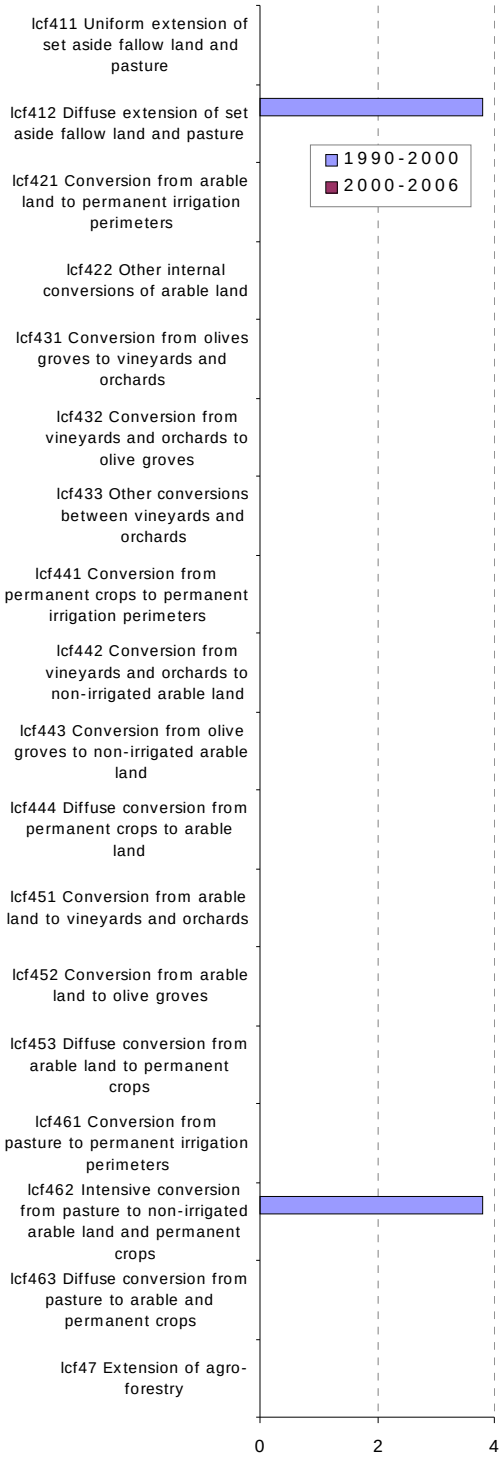
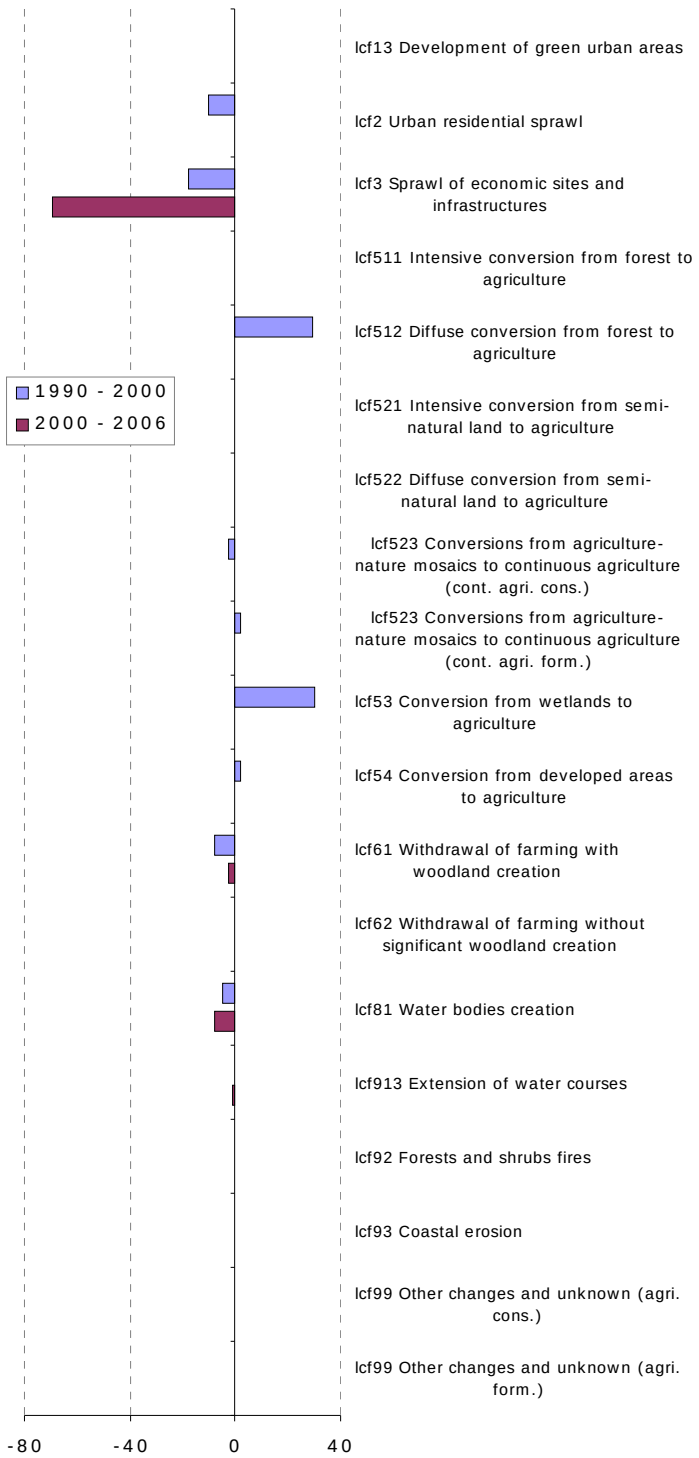
9.31. Mean annual agriculture internal conversions [ha/year]



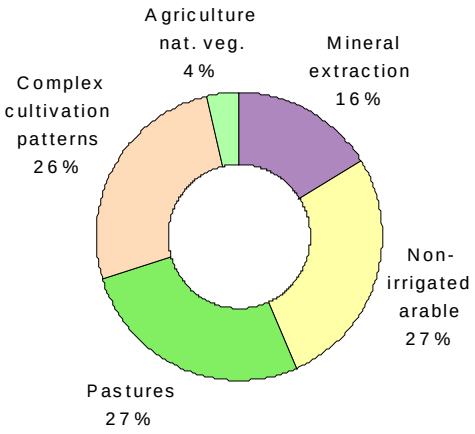
9.32. Mean annual conversions between agriculture and other LC types [ha/year]



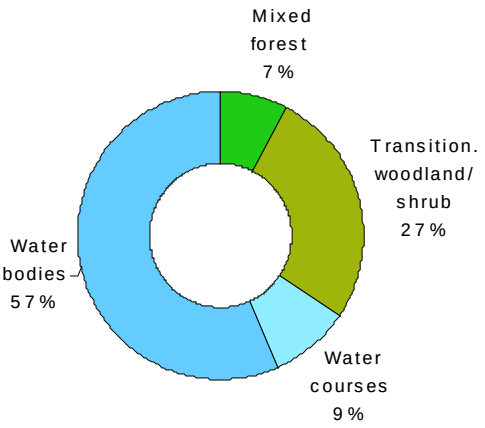
Slovenia

Forest & nature

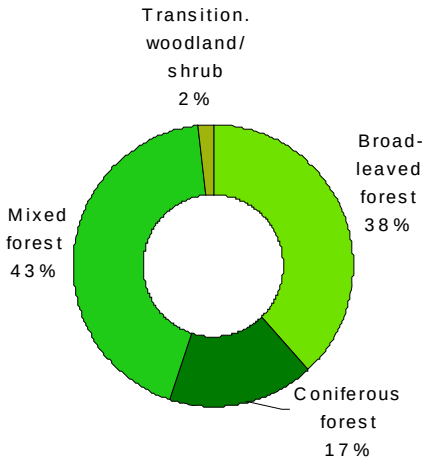
10.33. LC consumed by forest & nature 2000-2006 [% of total]



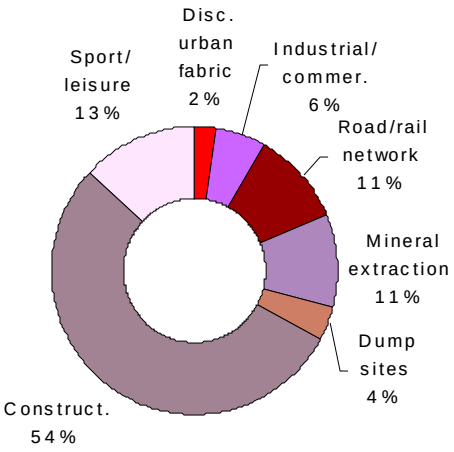
10.34. Formation of forest & nature land from non-forest /nature 2000-2006 [% of total]



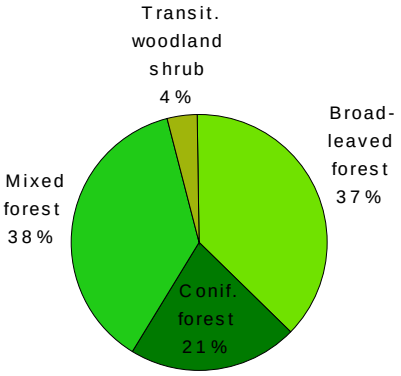
10.35. Consumption of forest & nature land by non-forest /nature 2000-2006 [% of total]



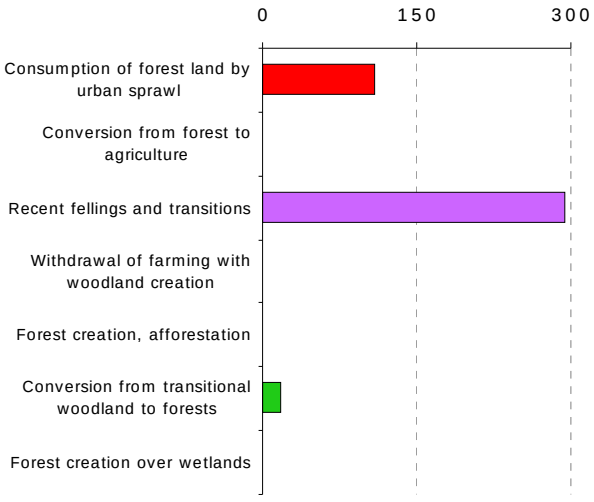
10.36. Formation of non-forest /nature land from forest & nature 2000-2006 [% of total]



10.37. Forested land 2006 [% of total area]



10.38. Main trends in woodland & forests consumption/formation 2000-2006 [ha/year]



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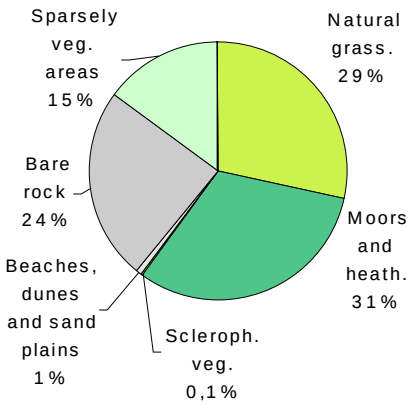
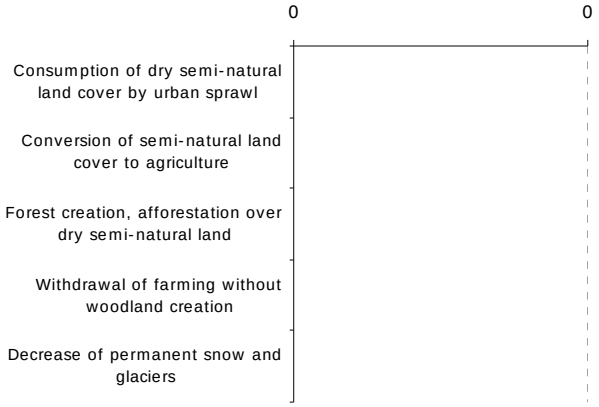
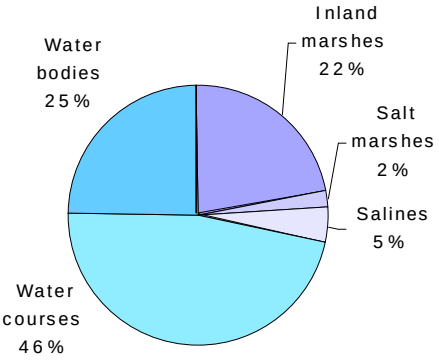
11.39. Dry semi-natural areas 2006 [% of total area]



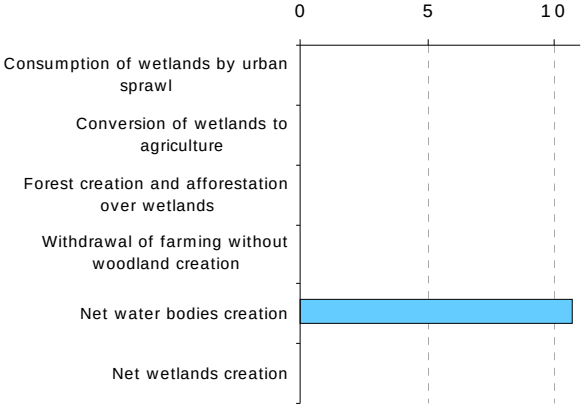
11.40. Main trends in dry semi-natural land consumption/formation 2000-2006 [ha/year]



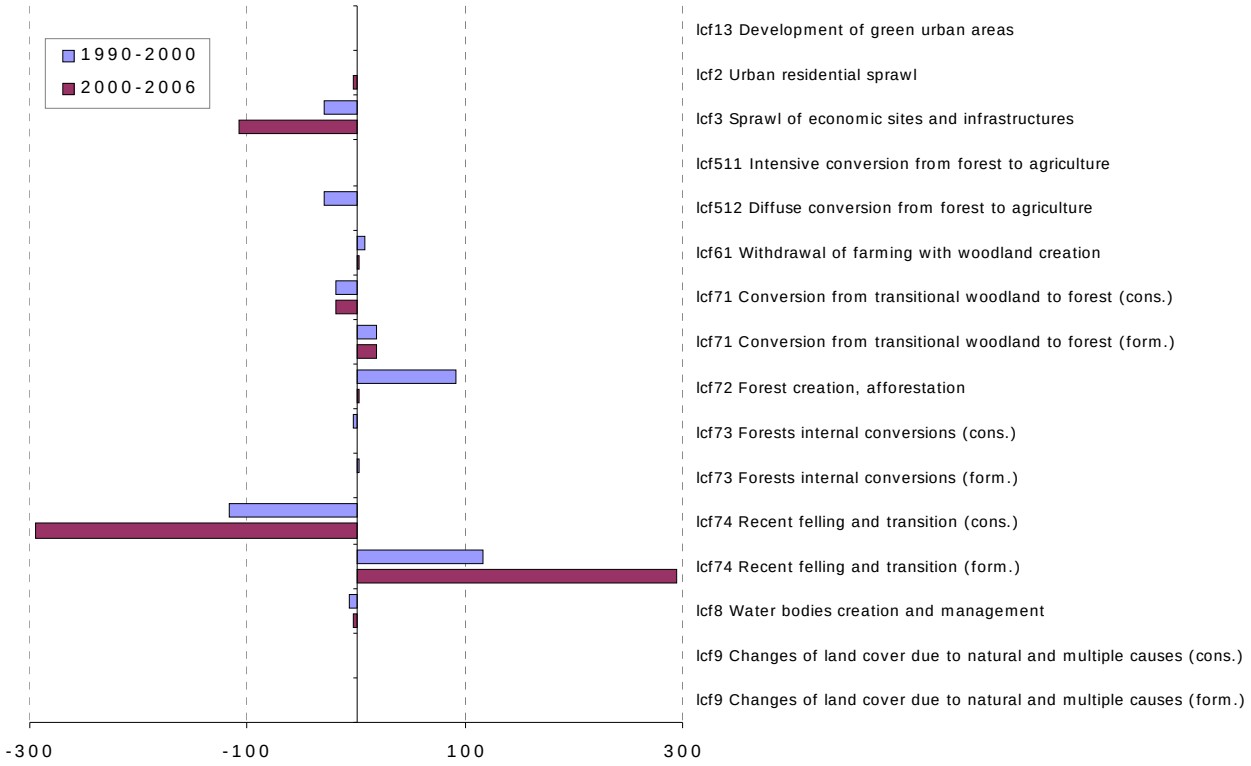
11.41. Wetlands & water 2006 [% of total area]



11.42. Main trends in wetlands & water consumption/formation 2000-2006 [ha/year]



11.43. Mean annual conversions of forest & other woodland [ha/year]



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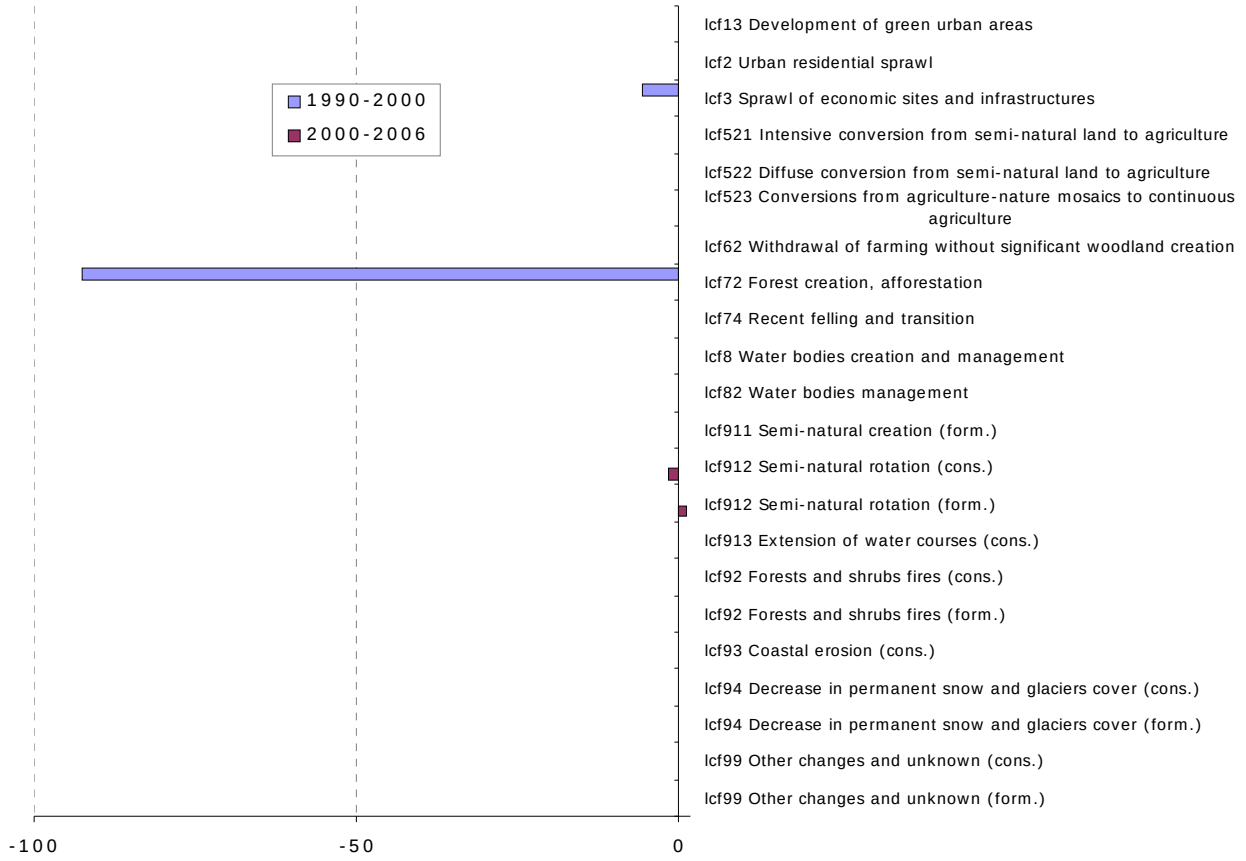
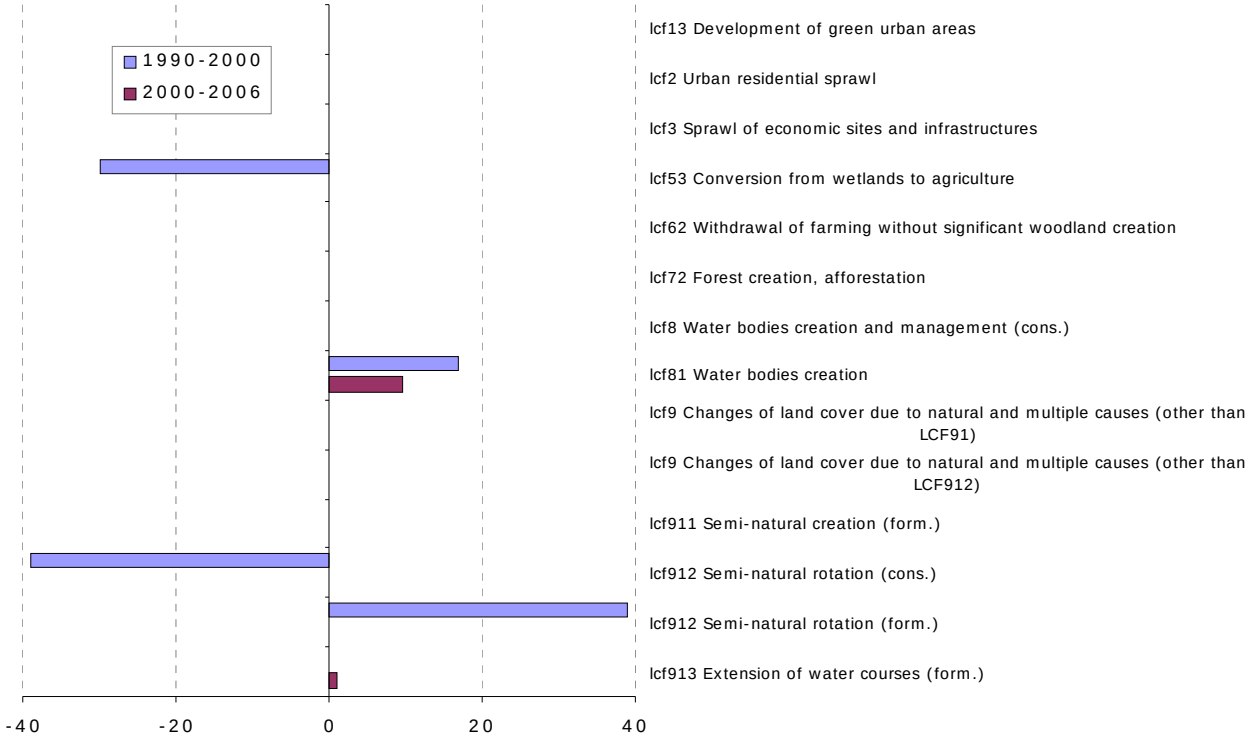
12.44. Mean annual conversions of dry semi-natural LC [ha/year]



12.45. Mean annual conversions of wetlands and water LC [ha/year]



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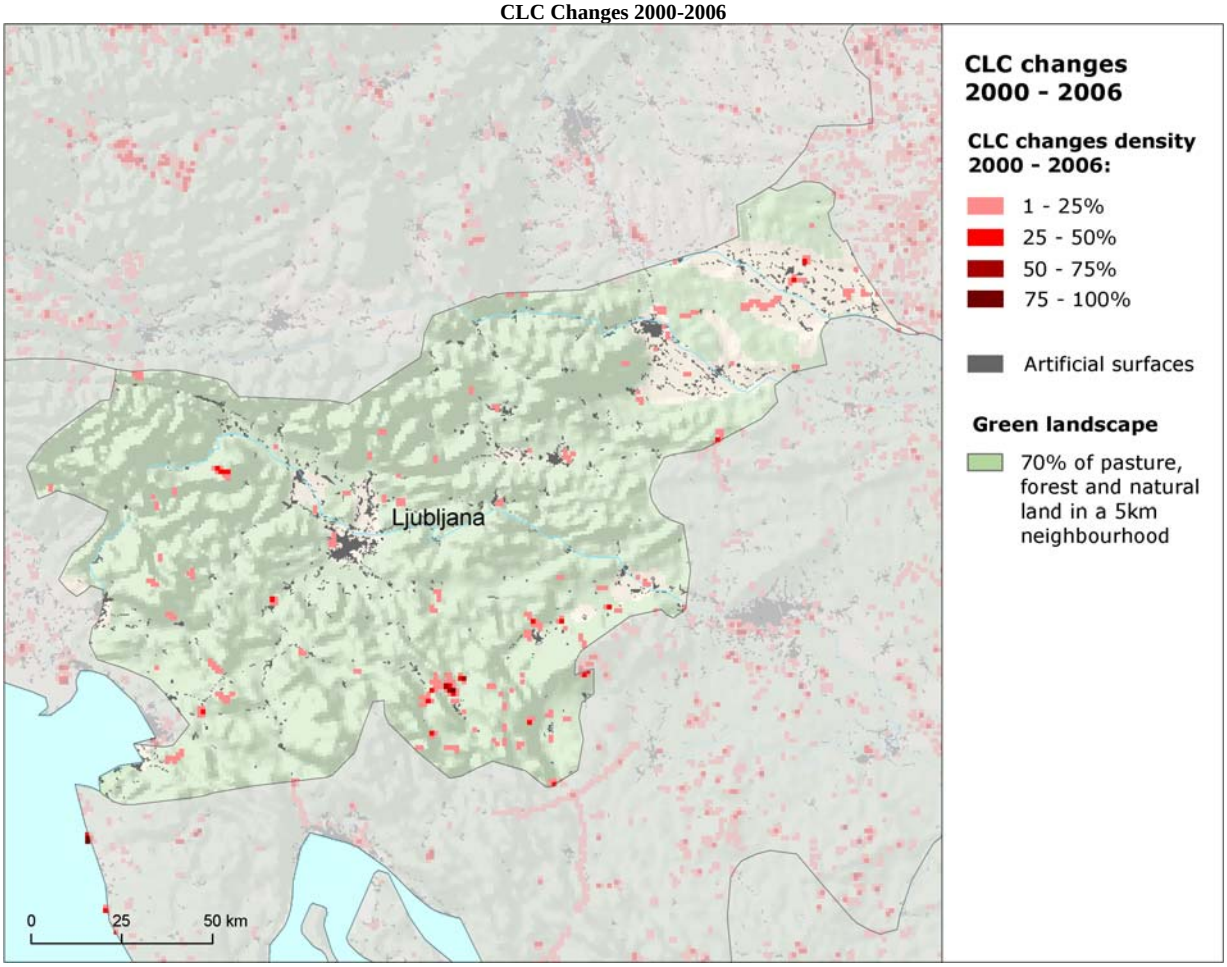
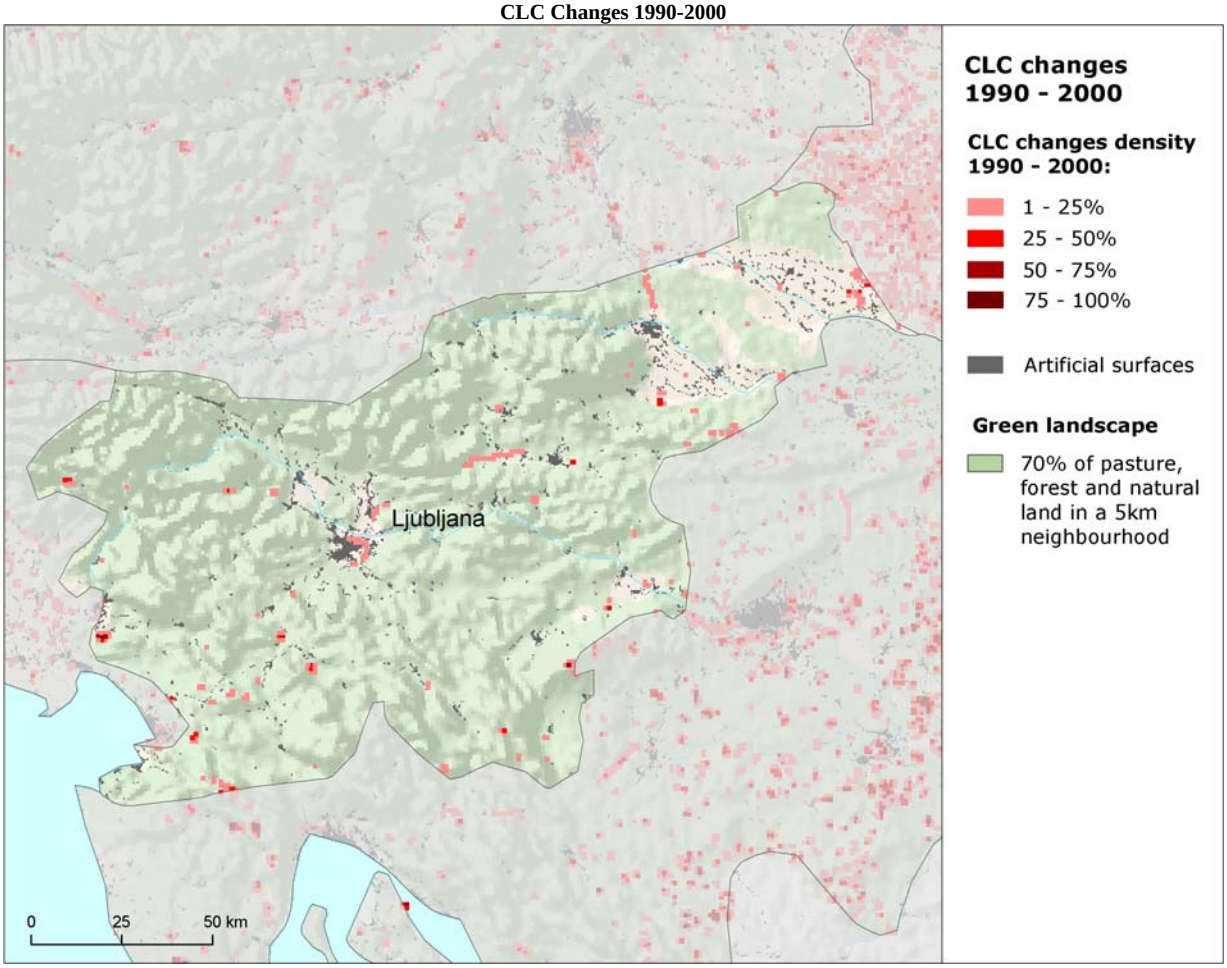
CLC Changes 2000-2006



CLC Changes 1990-2000



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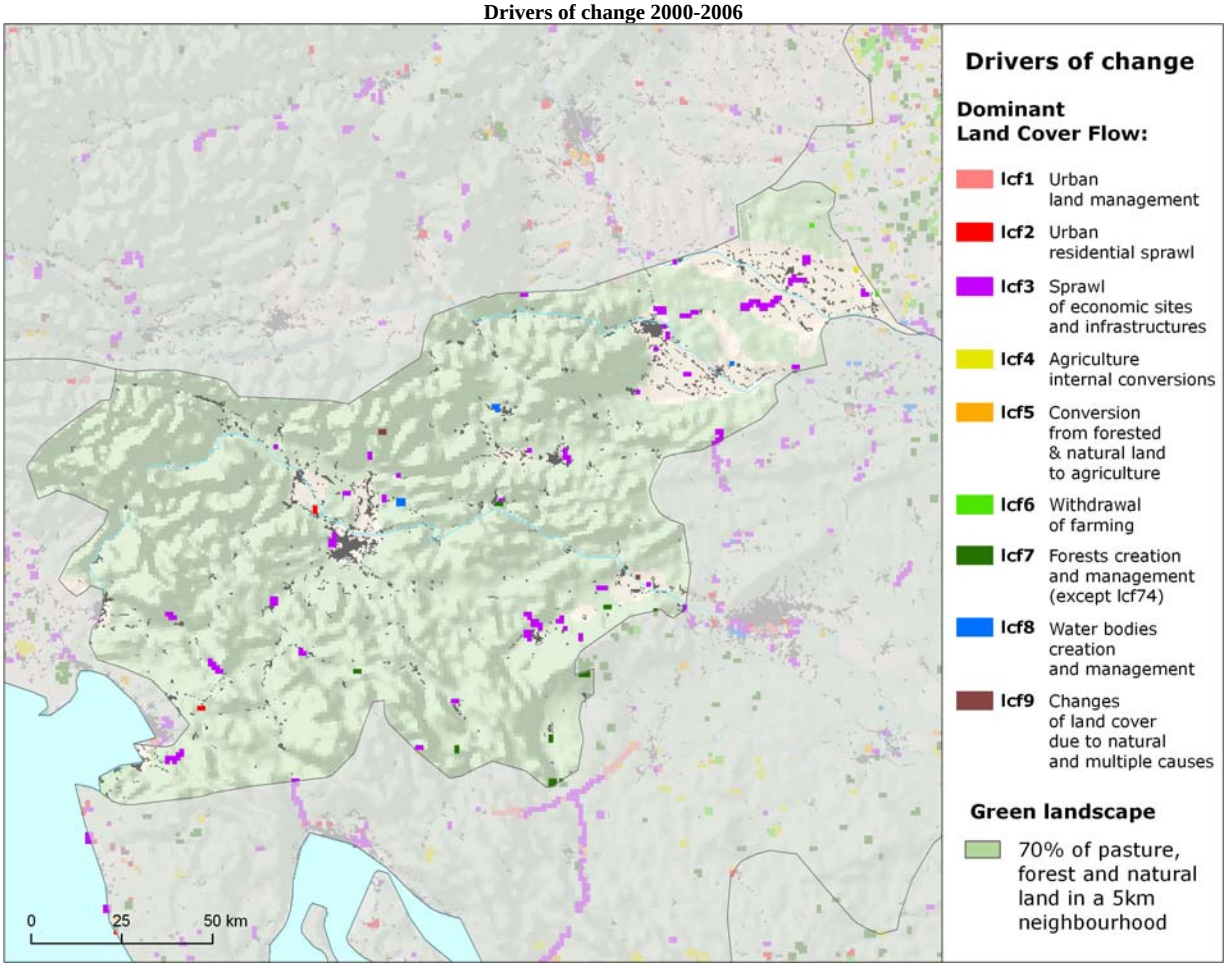
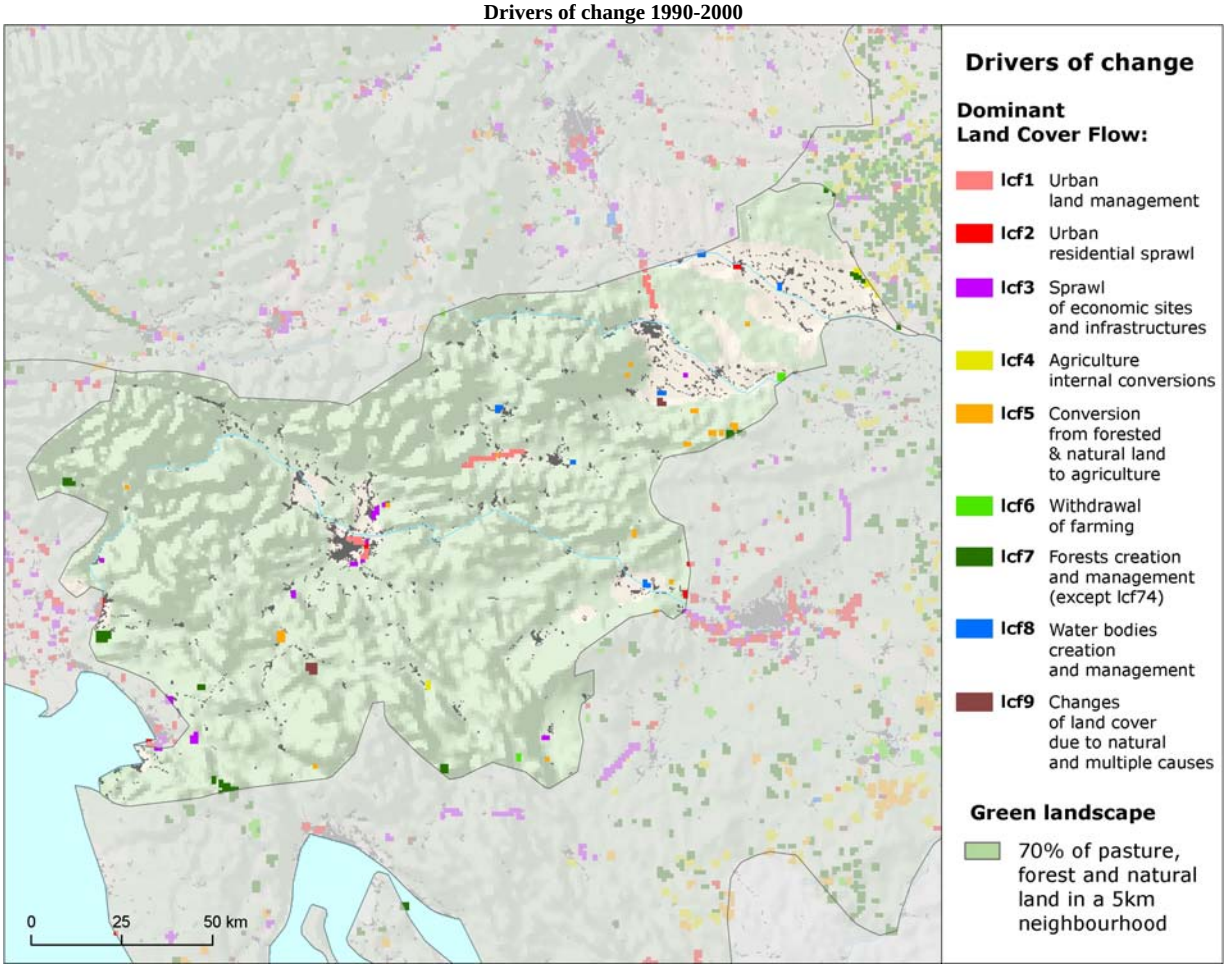
Drivers of change 2000-2006



Drivers of change 1990-2000



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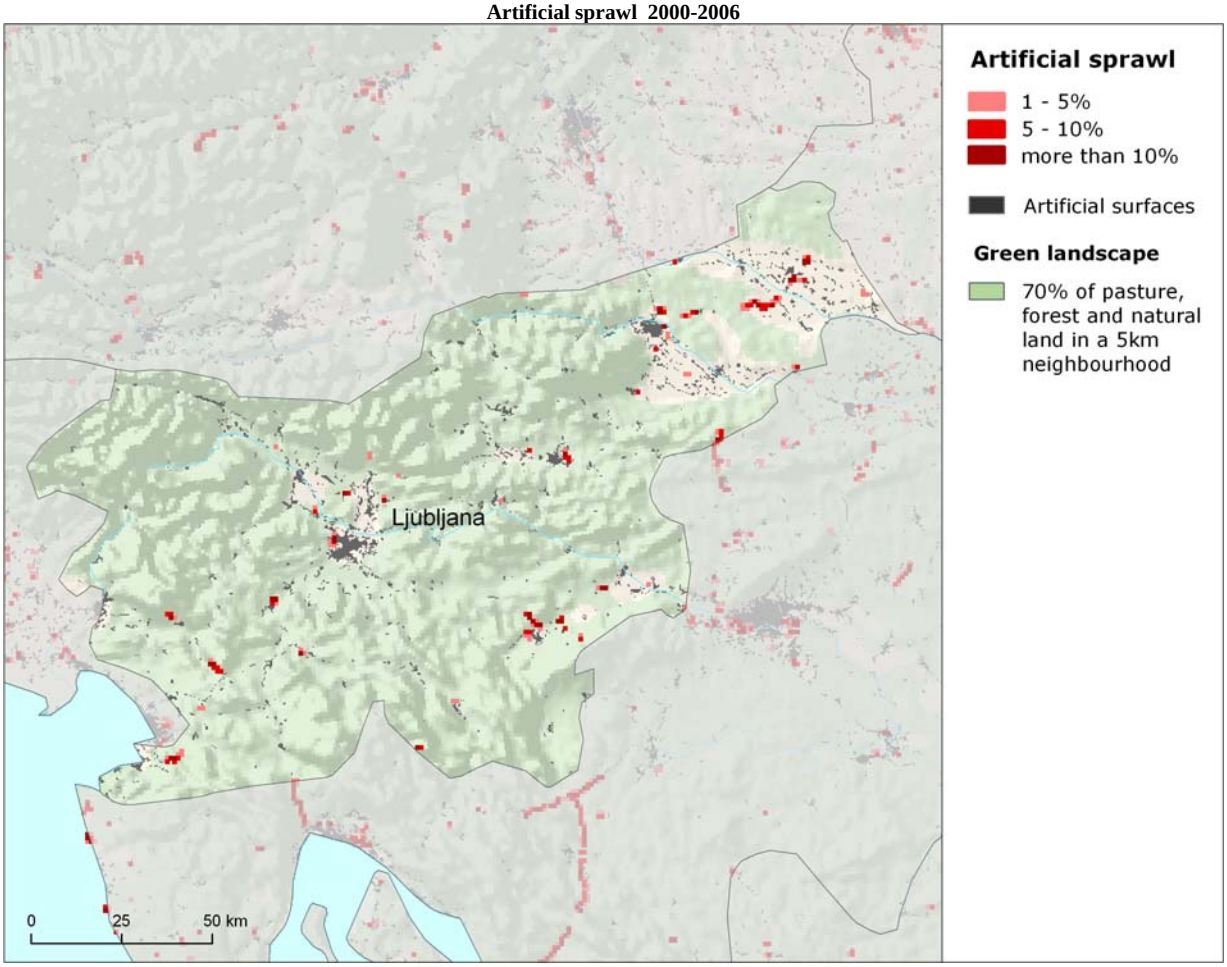
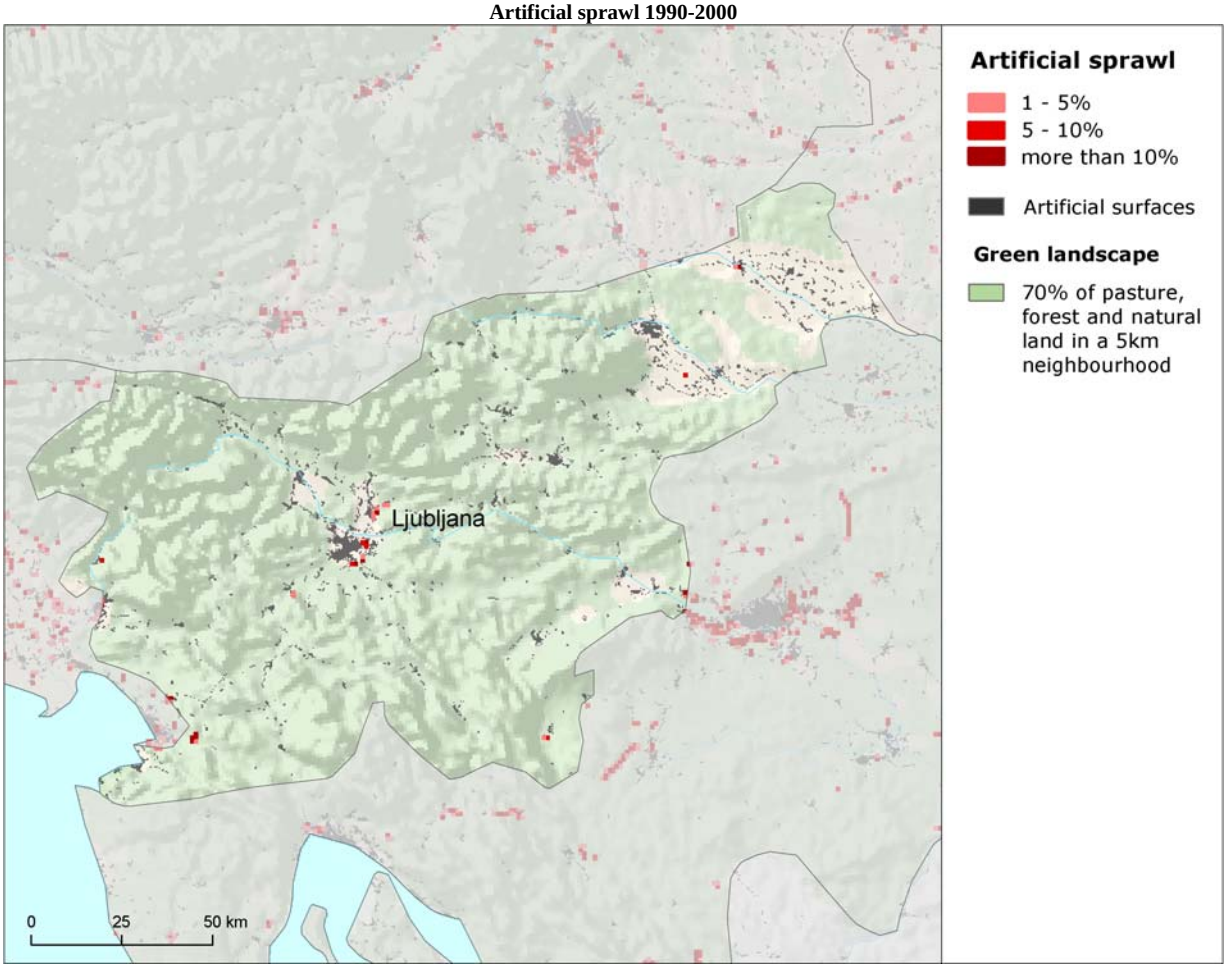
Artificial sprawl 2000-2006



Artificial sprawl 1990-2000



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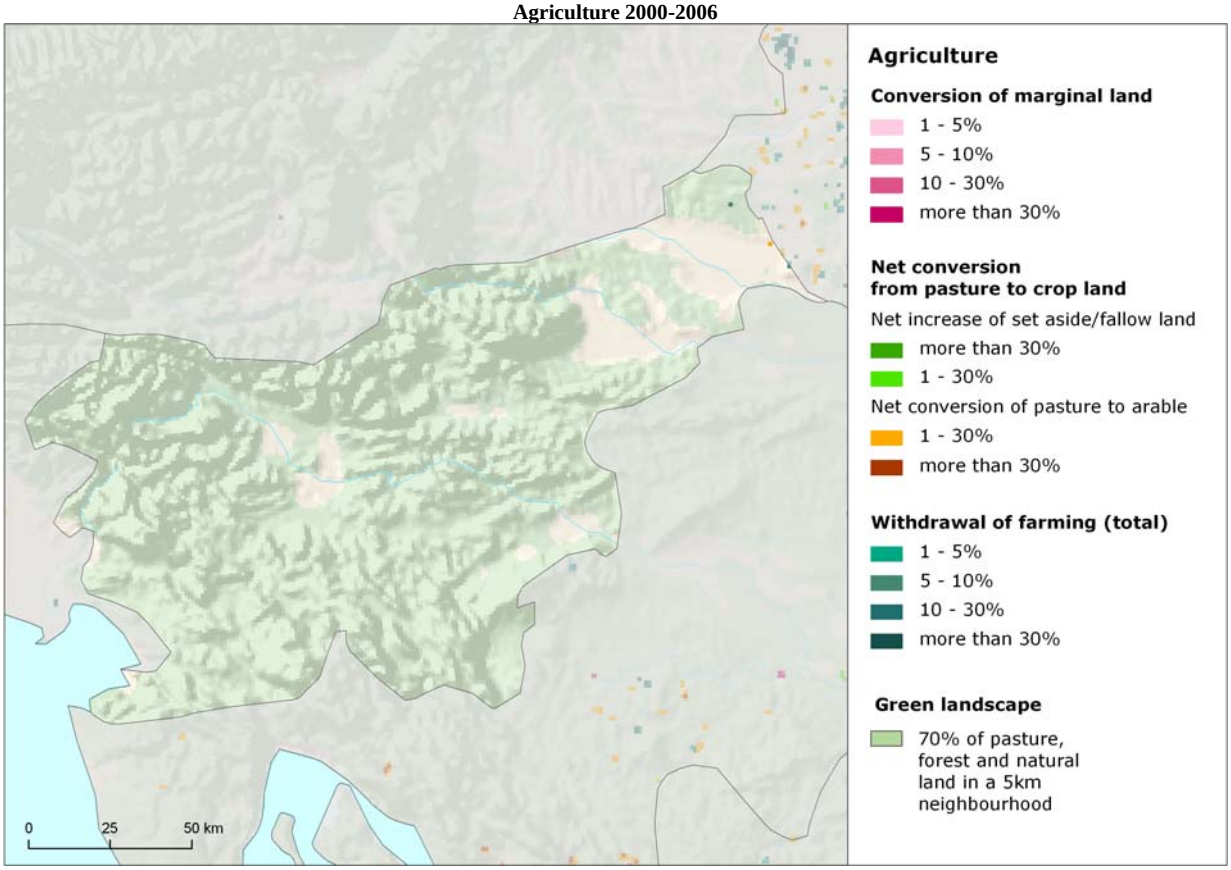
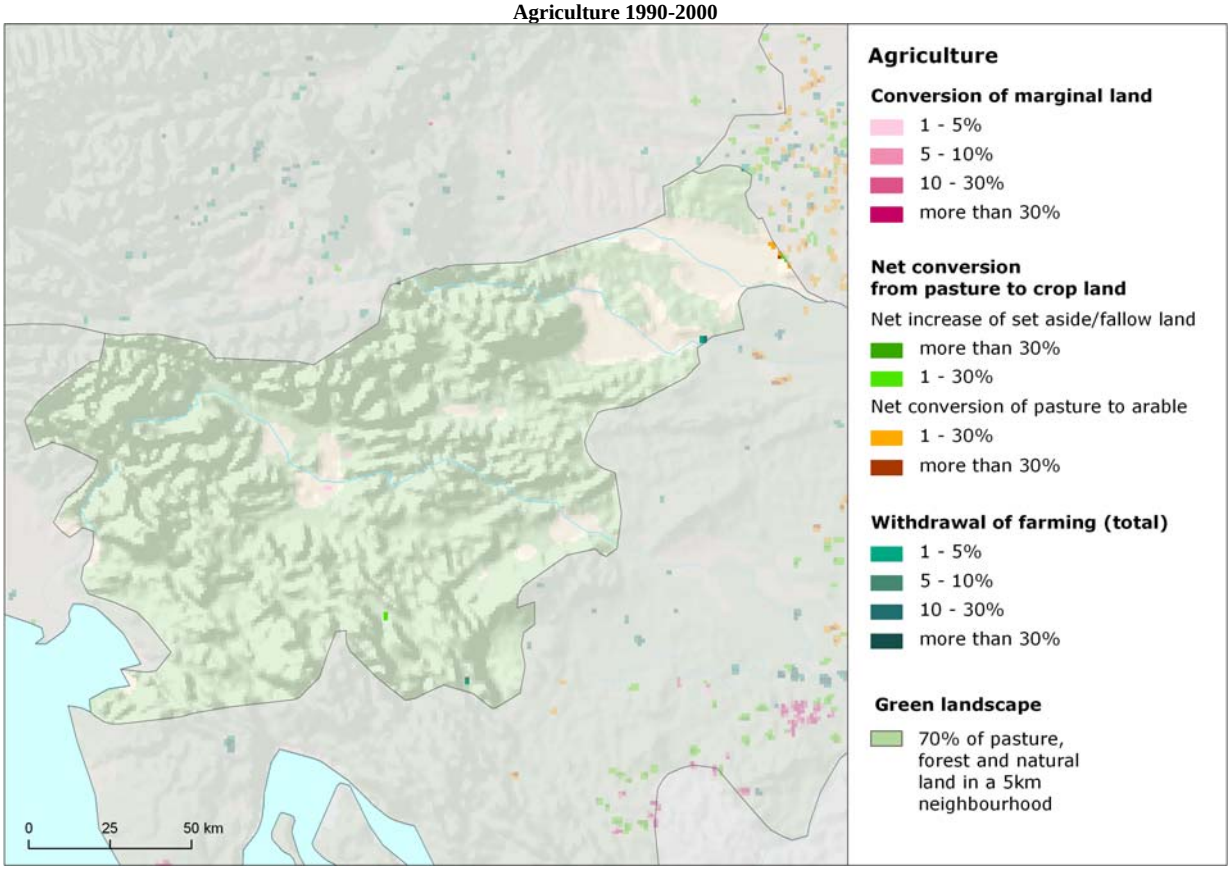
Agriculture 2000-2006



Agriculture 1990-2000



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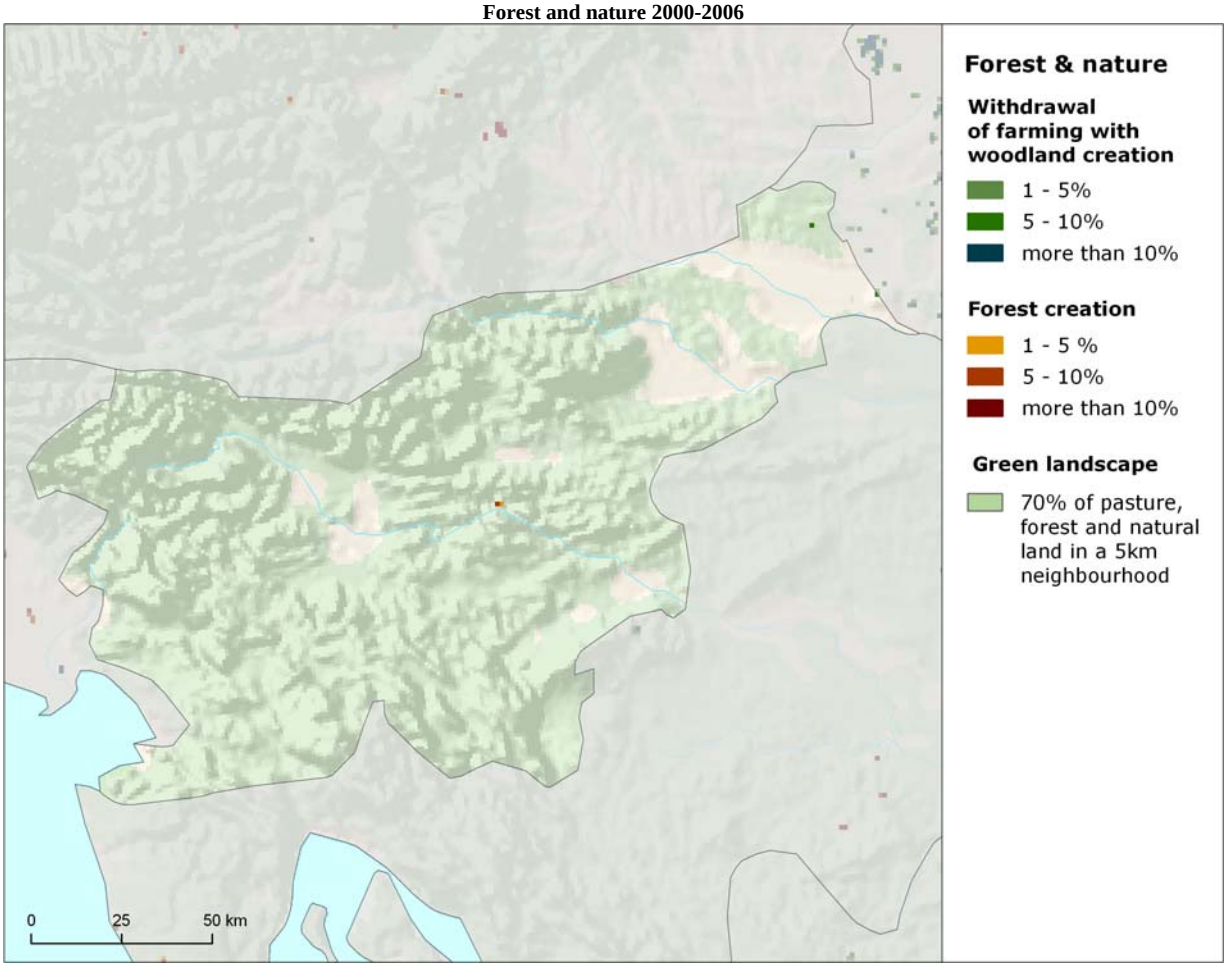
Forest and nature 2000-2006



Forest and nature 1990-2000